

## PATENT ABSTRACTS OF JAPAN

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(71)Applicant : OJI PAPER CO LTD

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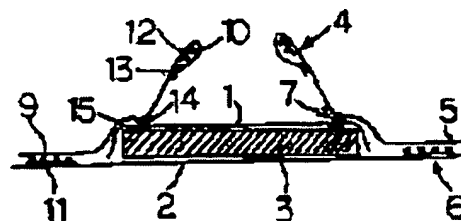
(72)Inventor : TANAKA KOJI  
NIMI TAKESHI

## (54) DISPOSABLE DIAPER

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a disposable diaper with which leak prevention and cost down are attained.

**SOLUTION:** This diaper is constituted so as to have an absorber 3 between a front sheet 1 and a rear sheet 2 and side flaps 6 extended outside from both the side edges of absorber 3 in lengthwise direction. In this case, the side flaps 6 are constituted by sticking side sheets 5 separate from the front sheet 1 to the rear sheet 2, a stretchable elastic member 10 is arranged in the lengthwise direction of diaper between the side sheet 5 and the rear sheet 2, the side sheet 5 is arranged from the side flaps 6 onto the absorber 3, and the side edges of a section on the absorber are folded and formed into free edges so as to wrap the stretchable elastic member 10 inside. At the same time, with the adhesive section to the front sheet 1 on the absorber 3 as a base terminal part 7, a second flap 4 to raise a free edge separately from the absorber 3 is formed, and further, the second flap 4 is let fall inside the diaper at both the terminal parts in the lengthwise direction of diaper and adhered to the front sheet 11 on the absorber 3.



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## CLAIMS

[Claim(s)]

[Claim 1] In the usage \*\*\*\* diaper which has the surface sheet of liquid permeability, the rear-face sheet of liquid impermeability, the absorber arranged among both [ these ] sheets, and the side flap which extended outside from the longitudinal direction edges on both sides of said absorber Said side flap is constituted by sticking the sideseat and said rear-face sheet of the liquid impermeability which serves as a surface sheet from the shape of a film and sheet-like material of another object. Between the sideseat and the rear-face sheet, the flexible elastic member is arranged at the longitudinal direction of a diaper. And said sideseat The part which is continued and arranged on the absorber from the side flap, and is arranged on said absorber The side edge wraps in a flexible elastic member inside, is bent, and the free edge is formed, and a part for jointing with the surface sheet on an absorber is made into the end face section. Said 2nd flap is a usage \*\*\*\* diaper with which it is characterized by forming the 2nd flap which said free edge estranges from an absorber and stands up up, having pushed down the longitudinal direction both ends inside the diaper further, and having pasted the surface sheet on an absorber.

[Claim 2] The end face section of said 2nd flap is a usage \*\*\*\* diaper according to claim 1 characterized by being prepared on the surface sheet on the absorber of 1-50mm inside from the side edge of the narrowest part of the width of face of an absorber.

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## DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] It uses and is the thing about a \*\*\*\* diaper which especially the touch and a feeling of wear were good, and has moreover improved the leakage of urine, and \*\*\*\* of the skin about a \*\*\*\* diaper using this invention.

[0002]

[Description of the Prior Art] Conventionally, form an absorber between a surface sheet and a rear-face sheet, and it has the side flap which extended outside from the longitudinal direction edges-on-both-sides section of an absorber. The 2nd flap which has a flexible elastic member in the longitudinal direction of a diaper in said side flap, and has the flexible elastic member pushed down inside the diaper on the side flap is installed. What [ aimed at prevention of leakage, such as urine, by preparing the pocket section between the surface sheet on an absorber, and the 2nd flap ] Without preparing a flexible elastic member in the side flap section, install an elasticity elastic body only in the 2nd flap section, move the 2nd flap to the outside of a diaper also in the longitudinal direction both ends of a diaper, and it pastes up on a side flap or a surface sheet. The diaper which was steamed and aimed at the improvement of prevention of leakage, such as \*\*\*\*, etc. is known (JP,62-250201,A, JP,62-223303,A, JP,62-153311,U).

[0003] However, as for the usage \*\*\*\* diaper which has the 2nd conventional flap, the end face section of the 2nd flap is prepared in the outside of the edges-on-both-sides section of an absorber. When there was no absorber just under the 2nd flap and urine had flowed into the part, since a pool is made into the part and it was easy to generate leakage, even if this invention person etc. urinated so much that such a fault should be canceled, he could carry out resorption to the absorber and proposed the usage \*\*\*\* diaper with a high leakproof effect.

[0004] The diaper has an absorber between the surface sheet of liquid permeability, and the rear-face sheet of liquid impermeability. It has the side flap which extended outside from the longitudinal direction edges on both sides of said absorber. And have the 2nd flap installed along with the edges-on-both-sides section of an absorber, and it is constituted, when said 2nd flap bends the edges-on-both-sides section of a surface sheet so that a flexible elastic member may be wrapped in inside. Furthermore, the parts which the part which forms said 2nd flap is water repellence, and are located on the absorber of a surface sheet are [ the thing of a hydrophilic property and the inside field of the 2nd flap ] the things of a hydrophilic property.

[0005] A side flap also has the diaper which the shape of a film and sheet-like material of another object sticks, is set, and \*\* also has on the surface sheet with which the end face section of the 2nd flap hits on an absorber, and has a flexible elastic member in a side flap with a rear-face sheet and a surface sheet. (JP,4-9153,A)

[0006] although it bend and the 2nd flap of the above-mentioned usage \*\*\*\* diaper be constitute so that a flexible elastic member may be wrap in for the edges on both sides section of a surface sheet inside , since the part locate on the absorber of a surface sheet be a field equivalent to the direct skin , the expensive good ingredient of the touch or aesthetic property be use , and although a center section be a hydrophilic property , the part which form the 2nd flap of the edges on both sides section , or its part need to use what gave a water-repellent finish .

[0007] For this reason, surface sheet stock will become expensive, when using using this and manufacturing a \*\*\*\* diaper, it becomes cost quantity. and when using using the above-mentioned surface sheet and manufacturing a \*\*\*\* diaper, that production process becomes complicated. Then, there are some in which the end face section of the 2nd flap is on an absorber, reduced expensive surface sheets, and formed the 2nd flap using the comparatively cheap sideseat. Although the diaper (JP,5-15933,U) which carried out the inner chip box of said sideseat, made it the double sheet, arranged the flexible elastic member in the double part, fixed the side edge section of a sideseat to the surface sheet, and fixed to the rear-face sheet the parts of the side edge section which formed the 2nd flap and formed the 2nd flap of a sideseat, and the opposite side is proposed, although a material becomes cheap, it becomes complicated [ a production process ].

[0008] On the other hand, the 2nd flap (anti-leak barrier) is prepared by the sideseat of liquid impermeability on the absorber which arranged the surface sheet of liquid permeability. One side edge of the 2nd flap is fixed to the surface sheet on said absorber (fixed end). A flexible elastic member is allotted to the other end (free end), said free end is arranged towards an outside in longitudinal direction both ends, and the free end in which the 2nd flap of said sideseat was formed, and the diaper (JP,5-317362,A) which fixed the part of the opposite side to the rear-face sheet are also proposed. Cost is reduced for the diaper and the production process is facilitated. However, although the excreted urine is absorbed by the absorber just under a surface sheet, it has problems, such as surpassing a wall and leaking, since the 2nd flap has turned to the outside of a diaper when urine is abundant.

[0009]

[Problem(s) to be Solved by the Invention] This invention solves the trouble which the above-mentioned conventional usage \*\*\*\* diaper has, and it excels in a leakproof effect and it aims at offering a manufacture \*\*\*\*\* usage \*\*\*\* diaper cheaply.

[0010]

[Means for Solving the Problem] In the usage \*\*\*\* diaper which has the side flap to which this invention extended outside from the longitudinal direction edges on both sides of the surface sheet of liquid permeability, the rear-face sheet of liquid impermeability, the absorber arranged among both [ these ] sheets, and said absorber Said side flap is constituted by sticking the sideseat and said rear-face sheet of the liquid impermeability which serves as a surface sheet from the shape of a film and sheet-like material of another object. Between the sideseat and the rear-face sheet, the flexible elastic member is arranged at the longitudinal direction of a diaper. And said sideseat The part which is continued and arranged on the absorber from the side flap, and is arranged on said absorber The side edge wraps

in a flexible elastic member inside, is bent, and the free edge is formed, and a part for jointing with the surface sheet on an absorber is made into the end face section. The 2nd flap which said free edge estranges from an absorber and stands up up is formed, and it is the usage \*\*\*\* diaper with which said 2nd flap is characterized by having pushed down the longitudinal direction both ends inside the diaper, and having pasted the surface sheet on an absorber further.

[0011] Furthermore, this invention is a usage \*\*\*\* diaper characterized by preparing the end face section of said 2nd flap on the surface sheet on the absorber of 1-50mm inside from the side edge of the narrowest part of the width of face of an absorber.

[0012]

[Embodiment of the Invention] Hereafter, this invention is explained to a detail. You may fix with a diaper cover and the usage \*\*\*\* diaper of this invention can also be fixed using a band and a tape. As a surface sheet, polyethylene, polypropylene, the nonwoven fabric of liquid impermeability that consists of other thermoplastics, textile fabrics, porous plastic film, etc. are used. Moreover, what carried out the laminating of the polyethylene film of liquid impermeability, the polyethylene film which prepared the fine hole preferably, a liquid impermeable film with the moisture permeability which added and extended the filler to thermoplastics, etc. and said liquid impermeable film and said nonwoven fabric as a rear-face sheet is used. Although curdy pulp, an absorbent paper, the super-absorbent polymer matter, etc. are used as an absorber, a rectangle or a sandglass is sufficient as the configuration of an absorber.

[0013] The 2nd flap is made from the sideseat of the liquid impermeability [ sheet / surface ] of another object. the side edge section is constituted by bending so that a flexible elastic member may be wrapped in inside, and forming a free edge. the free edge is estranged from an absorber, and stands up up, and the end face section is a part for jointing of the surface sheet on an absorber. Moreover, the parts of the side edge section in which the 2nd flap of a sideseat was formed, and the opposite side are stuck with a rear-face sheet, and form a side flap. Between the sideseat and the rear-face sheet, after the flexible elastic member has developed to the longitudinal direction of a diaper, it is arranged.

[0014] As for the end face section of the 2nd flap, it is desirable to fix on a surface sheet in the location of 1-50mm from the edges on both sides (edges on both sides of the part narrowest when an absorber is a sandglass mold) of an absorber. In the location of 1mm or less, since there are few absorbed amounts of the urine by the absorber, a urinary pool tends to be made, a urinary absorption field becomes narrow and urine leakage-comes to be easy in the location conversely exceeding 50mm.

[0015] that polyethylene, polypropylene, polyester, etc. are independent as a sideseat or the nonwoven fabric which consists of a bicomponent fiber, and a film and said nonwoven fabrics, such as polyethylene, -- \*\*\*\*\* -- or what gave said nonwoven fabric a water-repellent finish is used, and even if there is permeability and there is, it is not cared about. [ no ]

[0016] Moreover, in diaper longitudinal direction both ends, the 2nd flap is pushed down inside a diaper and fixes with adhesives. This is because there is effectiveness prevented certainly about the excreted urine jumping over the 2nd flap and beginning to leak.

[0017] The natural-rubber-silk rubber for which a flexible elastic member is usually used in a usage \*\*\*\* diaper, synthetic yarn rubber, urethane foam, an urethane film, etc. are used. Said flexible elastic member may fix with independent or such combination, such as a heat-sealing joining method besides this approach, and an ultrasonic welding method, although it usually pastes up with hot melt adhesive.

[0018] By bending the edges-on-both-sides section of the conventional surface sheet so that a flexible elastic member may be wrapped in inside, it compares, when forming the 2nd flap and a production process is not complicated except that according to this invention there is little amount of the surface sheet used of an expensive material, it ends and reduction of cost can be aimed at by forming the 2nd flap and a side flap by the surface sheet and the sideseat of liquid impermeability of another object.

[0019] Moreover, the end face section of the 2nd flap is prepared on the surface sheet of 1-50mm inside from the edges-on-both-sides edge of the narrowest part of the longitudinal direction of an absorber, even if it urinates so much since the 2nd flap is lodging inside the diaper and, it is immediately absorbed by the lower absorber, the thing of a surface sheet jumped over the 2nd flap is prevented, and the leakage prevention effectiveness is size.

[0020]

[Example] Although this invention is explained in detail based on drawing below, this invention is not restricted at all by these examples.

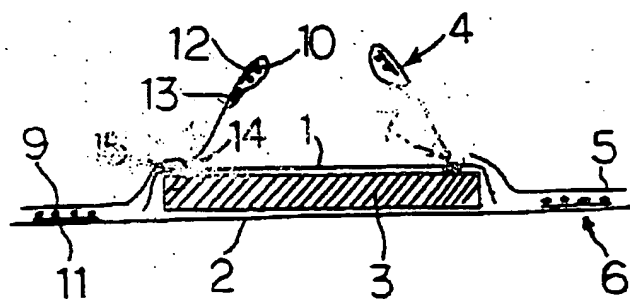
[0021] the condition that drawing 1 developed the usage \*\*\*\* diaper of this invention is shown -- it is a notching top view a part. In drawing 1, the circumference of foot flexible elastic member 9 is arranged along with the longitudinal direction of a diaper between the rear-face sheet 2 with which the absorber 3 is arranged, a sideseat 5 is arranged on the rear-face sheet 2 which extends from the edges on both sides of an absorber 3, the side flap 6 is formed between the surface sheet 1 and the rear-face sheet 2, and a usage \*\*\*\* diaper forms the side flap 6, and the sideseat 5. Moreover, it is formed, and further, the 2nd flap 4 to which the flexible elastic member 10 is arranged at the side edge, and the part arranged on the absorber 3 of a sideseat 5 has the end face section 7 on an absorber 3 was pushed down inside the diaper, and has pasted up the longitudinal direction both ends 8 of the 2nd flap 4 on the surface sheet 1 on an absorber 3. Drawing 2 shows the sectional view which cut the usage \*\*\*\* diaper of drawing 1 by the A-A' line. In drawing 2, an absorber 3 is arranged on the rear-face sheet 2, as for the usage \*\*\*\* diaper, the surface sheet 1 is arranged on the absorber 3, and the surface sheet 1 and the absorber 3 are pasted up with hot melt adhesive 15. Moreover, the part which it continues on an absorber 3 from on the rear-face sheet 2 which extends from the edges on both sides of an absorber 3, and the sideseat 5 is arranged, and is arranged on the rear-face sheet 2 forms the side flap 6 with the rear-face sheet 2, and the circumference of foot flexible elastic member 9 is arranged between the rear-face sheet 2 and the sideseat 5. Furthermore, the side edge wraps in the flexible elastic member 10 inside, is bent, and the free edge is formed, and the part arranged on the absorber 3 of a sideseat 5 makes a part for jointing with the surface sheet 1 on an absorber 3 the end face section 7, and the 2nd flap 4 which stands up up is formed. Drawing 3 shows the sectional view which cut the usage \*\*\*\* diaper of drawing 1 by the B-B' line. In drawing 3, the absorber did not exist between the surface sheet 1 and the rear-face sheet 2, but the surface sheet 1 and the rear-face sheet 2 are directly pasted up with adhesives 15. Moreover, the 2nd flap 4 was pushed down inside the diaper and pasted up on the surface sheet 1 with adhesives 16.

[0022]

[Effect of the Invention] Since according to this invention it uses, a side flap and the 2nd flap are formed in the both sides of a \*\*\*\* diaper by the liquid impermeable sideseat of another object and a surface sheet has the end face section of said 2nd flap in the location on an absorber, while being able to prevent the leakage of urine or facilities certainly, a cheap usage \*\*\*\* diaper can be offered.

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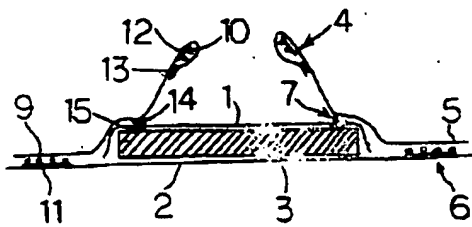
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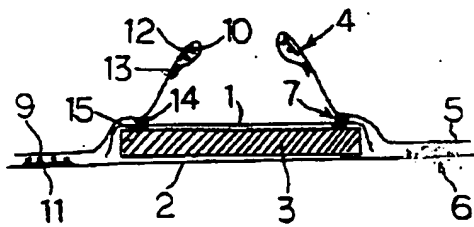
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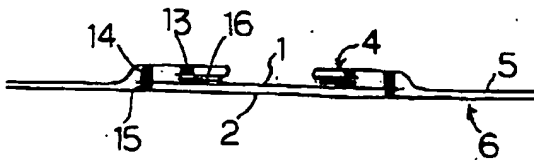
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Drawing selection drawing 3



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